

ANALYTICAL REPORT

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Laboratory Job ID: 320-73171-1
Client Project/Site: PFAS Testing - Water Plant

For:
City of Eau Claire WWTP
1000 Ferry St.
Eau Claire, Wisconsin 54703

Attn: Ty Fadness



Authorized for release by:
5/12/2021 8:29:02 AM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: City of Eau Claire WWTP
Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
J	Reported value was between the limit of detection and the limit of quantitation.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: City of Eau Claire WWTP
Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

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Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Job Narrative 320-73171-1

Comments

No additional comments.

Receipt

The sample was received on 5/3/2021 9:40 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 19.0° C.

Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: EP-400 PFAS (320-73171-1). There was no cooling media present in the cooler.

LCMS

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS for the following sample: EP-400 PFAS (320-73171-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-487032. 3535_PFC Aqueous

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Detection Summary

Client: City of Eau Claire WWTP
 Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Client Sample ID: EP-400 PFAS

Lab Sample ID: 320-73171-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.7		4.3	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	7.3		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	6.9		1.7	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.9		1.7	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.4		1.7	0.73	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.27	J	1.7	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.4		1.7	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	5.9		1.7	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	36		1.7	0.49	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.74	J	1.7	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	12		1.7	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	2.0		1.7	0.84	ng/L	1		537 (modified)	Total/NA
6:2 FTS	4.7		4.3	2.2	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: City of Eau Claire WWTP
 Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Client Sample ID: EP-400 PFAS

Lab Sample ID: 320-73171-1

Date Collected: 04/26/21 14:15

Matrix: Water

Date Received: 05/03/21 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	4.7		4.3	2.1	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluoropentanoic acid (PFPeA)	7.3		1.7	0.42	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorohexanoic acid (PFHxA)	6.9		1.7	0.50	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluoroheptanoic acid (PFHpA)	1.9		1.7	0.22	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorooctanoic acid (PFOA)	3.4		1.7	0.73	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorononanoic acid (PFNA)	0.27	J	1.7	0.23	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorodecanoic acid (PFDA)	<0.27		1.7	0.27	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluoroundecanoic acid (PFUnA)	<0.95		1.7	0.95	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorododecanoic acid (PFDoA)	<0.47		1.7	0.47	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorotridecanoic acid (PFTriDA)	<1.1		1.7	1.1	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorotetradecanoic acid (PFTeA)	<0.63		1.7	0.63	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.77		1.7	0.77	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.81		1.7	0.81	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorobutanesulfonic acid (PFBS)	4.4		1.7	0.17	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluoropentanesulfonic acid (PFPeS)	5.9		1.7	0.26	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorohexanesulfonic acid (PFHxS)	36		1.7	0.49	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.74	J	1.7	0.16	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorooctanesulfonic acid (PFOS)	12		1.7	0.47	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorononanesulfonic acid (PFNS)	<0.32		1.7	0.32	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorodecanesulfonic acid (PFDS)	<0.28		1.7	0.28	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorododecanesulfonic acid (PFDoS)	<0.84		1.7	0.84	ng/L		05/07/21 11:52	05/09/21 01:31	1
Perfluorooctanesulfonamide (FOSA)	2.0		1.7	0.84	ng/L		05/07/21 11:52	05/09/21 01:31	1
NEtFOSA	<0.75		1.7	0.75	ng/L		05/07/21 11:52	05/09/21 01:31	1
NMeFOSA	<0.37		1.7	0.37	ng/L		05/07/21 11:52	05/09/21 01:31	1
NMeFOSAA	<1.0		4.3	1.0	ng/L		05/07/21 11:52	05/09/21 01:31	1
NEtFOSAA	<1.1		4.3	1.1	ng/L		05/07/21 11:52	05/09/21 01:31	1
NMeFOSE	<1.2		3.4	1.2	ng/L		05/07/21 11:52	05/09/21 01:31	1
NEtFOSE	<0.73		1.7	0.73	ng/L		05/07/21 11:52	05/09/21 01:31	1
4:2 FTS	<0.21		1.7	0.21	ng/L		05/07/21 11:52	05/09/21 01:31	1
6:2 FTS	4.7		4.3	2.2	ng/L		05/07/21 11:52	05/09/21 01:31	1
8:2 FTS	<0.40		1.7	0.40	ng/L		05/07/21 11:52	05/09/21 01:31	1
10:2 FTS	<0.58		1.7	0.58	ng/L		05/07/21 11:52	05/09/21 01:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.34		1.7	0.34	ng/L		05/07/21 11:52	05/09/21 01:31	1
HFPO-DA (GenX)	<1.3		3.4	1.3	ng/L		05/07/21 11:52	05/09/21 01:31	1
9Cl-PF3ONS	<0.21		1.7	0.21	ng/L		05/07/21 11:52	05/09/21 01:31	1
11Cl-PF3OUdS	<0.28		1.7	0.28	ng/L		05/07/21 11:52	05/09/21 01:31	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	96		25 - 150				05/07/21 11:52	05/09/21 01:31	1
13C5 PFPeA	110		25 - 150				05/07/21 11:52	05/09/21 01:31	1
13C2 PFHxA	116		25 - 150				05/07/21 11:52	05/09/21 01:31	1
13C4 PFHpA	124		25 - 150				05/07/21 11:52	05/09/21 01:31	1
13C4 PFOA	124		25 - 150				05/07/21 11:52	05/09/21 01:31	1

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Client Sample Results

Client: City of Eau Claire WWTP
 Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Client Sample ID: EP-400 PFAS

Lab Sample ID: 320-73171-1

Date Collected: 04/26/21 14:15

Matrix: Water

Date Received: 05/03/21 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C5 PFNA	126		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C2 PFDA	128		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C2 PFUnA	132		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C2 PFDoA	118		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C2 PFTeDA	116		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C2 PFHxDA	118		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C3 PFBS	113		25 - 150	05/07/21 11:52	05/09/21 01:31	1
18O2 PFHxS	126		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C4 PFOS	129		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C8 FOSA	134		10 - 150	05/07/21 11:52	05/09/21 01:31	1
d3-NMeFOSAA	125		25 - 150	05/07/21 11:52	05/09/21 01:31	1
d5-NEtFOSAA	124		25 - 150	05/07/21 11:52	05/09/21 01:31	1
d-N-MeFOSA-M	117		10 - 150	05/07/21 11:52	05/09/21 01:31	1
d-N-EtFOSA-M	98		10 - 150	05/07/21 11:52	05/09/21 01:31	1
d7-N-MeFOSE-M	113		10 - 150	05/07/21 11:52	05/09/21 01:31	1
d9-N-EtFOSE-M	114		10 - 150	05/07/21 11:52	05/09/21 01:31	1
M2-4:2 FTS	159 *		25 - 150	05/07/21 11:52	05/09/21 01:31	1
M2-6:2 FTS	149		25 - 150	05/07/21 11:52	05/09/21 01:31	1
M2-8:2 FTS	140		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C3 HFPO-DA	106		25 - 150	05/07/21 11:52	05/09/21 01:31	1
13C2 10:2 FTS	143		25 - 150	05/07/21 11:52	05/09/21 01:31	1

Isotope Dilution Summary

Client: City of Eau Claire WWTP
 Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-73171-1	EP-400 PFAS	96	110	116	124	124	126	128	132
LCS 320-487032/2-A	Lab Control Sample	70	70	74	73	75	79	76	84
MB 320-487032/1-A	Method Blank	74	74	73	77	83	80	80	85

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
320-73171-1	EP-400 PFAS	118	116	118	113	126	129	134	125
LCS 320-487032/2-A	Lab Control Sample	75	71	79	74	79	82	78	90
MB 320-487032/1-A	Method Blank	77	73	75	77	85	80	82	86

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
320-73171-1	EP-400 PFAS	124	117	98	113	114	159 *	149	140
LCS 320-487032/2-A	Lab Control Sample	79	63	59	80	69	93	85	87
MB 320-487032/1-A	Method Blank	86	64	64	72	71	88	91	90

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (25-150)	M102FTS (25-150)
320-73171-1	EP-400 PFAS	106	143
LCS 320-487032/2-A	Lab Control Sample	66	87
MB 320-487032/1-A	Method Blank	70	97

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- PFHxA = 13C2 PFHxA
- C4PFHA = 13C4 PFHpA
- PFOA = 13C4 PFOA
- PFNA = 13C5 PFNA
- PFDA = 13C2 PFDA
- PFUnA = 13C2 PFUnA
- PFDaA = 13C2 PFDaA
- PFTDA = 13C2 PFTeDA
- PFHxDA = 13C2 PFHxDA
- C3PFBS = 13C3 PFBS
- PFHxS = 18O2 PFHxS
- PFOS = 13C4 PFOS
- PFOSA = 13C8 FOSA
- d3NMFOS = d3-NMeFOSAA
- d5NEFOS = d5-NEtFOSAA
- dMeFOSA = d-N-MeFOSA-M
- dEtFOSA = d-N-EtFOSA-M
- NMFM = d7-N-MeFOSE-M
- NEFM = d9-N-EtFOSE-M
- M242FTS = M2-4:2 FTS
- M262FTS = M2-6:2 FTS
- M282FTS = M2-8:2 FTS
- HFPODA = 13C3 HFPO-DA
- M102FTS = 13C2 10:2 FTS

QC Sample Results

Client: City of Eau Claire WWTP
 Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-487032/1-A
Matrix: Water
Analysis Batch: 487343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487032

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	<2.4		5.0	2.4	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluoropentanoic acid (PFPeA)	<0.49		2.0	0.49	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorohexanoic acid (PFHxA)	<0.58		2.0	0.58	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluoroheptanoic acid (PFHpA)	<0.25		2.0	0.25	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorooctanoic acid (PFOA)	<0.85		2.0	0.85	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorononanoic acid (PFNA)	<0.27		2.0	0.27	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	0.31	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluoroundecanoic acid (PFUnA)	<1.1		2.0	1.1	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorododecanoic acid (PFDoA)	<0.55		2.0	0.55	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorotridecanoic acid (PFTrDA)	<1.3		2.0	1.3	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorotetradecanoic acid (PFTeA)	<0.73		2.0	0.73	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.89		2.0	0.89	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.94		2.0	0.94	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorobutanesulfonic acid (PFBS)	<0.20		2.0	0.20	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluoropentanesulfonic acid (PFPeS)	<0.30		2.0	0.30	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorohexanesulfonic acid (PFHxS)	<0.57		2.0	0.57	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.19		2.0	0.19	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorooctanesulfonic acid (PFOS)	<0.54		2.0	0.54	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorononanesulfonic acid (PFNS)	<0.37		2.0	0.37	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorodecanesulfonic acid (PFDS)	<0.32		2.0	0.32	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorododecanesulfonic acid (PFDoS)	<0.97		2.0	0.97	ng/L		05/07/21 11:52	05/08/21 22:56	1
Perfluorooctanesulfonamide (FOSA)	<0.98		2.0	0.98	ng/L		05/07/21 11:52	05/08/21 22:56	1
NEtFOSA	<0.87		2.0	0.87	ng/L		05/07/21 11:52	05/08/21 22:56	1
NMeFOSA	<0.43		2.0	0.43	ng/L		05/07/21 11:52	05/08/21 22:56	1
NMeFOSAA	<1.2		5.0	1.2	ng/L		05/07/21 11:52	05/08/21 22:56	1
NEtFOSAA	<1.3		5.0	1.3	ng/L		05/07/21 11:52	05/08/21 22:56	1
NMeFOSE	<1.4		4.0	1.4	ng/L		05/07/21 11:52	05/08/21 22:56	1
NEtFOSE	<0.85		2.0	0.85	ng/L		05/07/21 11:52	05/08/21 22:56	1
4:2 FTS	<0.24		2.0	0.24	ng/L		05/07/21 11:52	05/08/21 22:56	1
6:2 FTS	<2.5		5.0	2.5	ng/L		05/07/21 11:52	05/08/21 22:56	1
8:2 FTS	<0.46		2.0	0.46	ng/L		05/07/21 11:52	05/08/21 22:56	1
10:2 FTS	<0.67		2.0	0.67	ng/L		05/07/21 11:52	05/08/21 22:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.40		2.0	0.40	ng/L		05/07/21 11:52	05/08/21 22:56	1
HFPO-DA (GenX)	<1.5		4.0	1.5	ng/L		05/07/21 11:52	05/08/21 22:56	1
9CI-PF3ONS	<0.24		2.0	0.24	ng/L		05/07/21 11:52	05/08/21 22:56	1
11CI-PF3OUdS	<0.32		2.0	0.32	ng/L		05/07/21 11:52	05/08/21 22:56	1
Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac			
	%Recovery	Qualifier							
13C4 PFBA	74		25 - 150	05/07/21 11:52	05/08/21 22:56	1			
13C5 PFPeA	74		25 - 150	05/07/21 11:52	05/08/21 22:56	1			
13C2 PFHxA	73		25 - 150	05/07/21 11:52	05/08/21 22:56	1			
13C4 PFHpA	77		25 - 150	05/07/21 11:52	05/08/21 22:56	1			
13C4 PFOA	83		25 - 150	05/07/21 11:52	05/08/21 22:56	1			
13C5 PFNA	80		25 - 150	05/07/21 11:52	05/08/21 22:56	1			

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: City of Eau Claire WWTP
 Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-487032/1-A
Matrix: Water
Analysis Batch: 487343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487032

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2 PFDA	80		25 - 150	05/07/21 11:52	05/08/21 22:56	1
13C2 PFUnA	85		25 - 150	05/07/21 11:52	05/08/21 22:56	1
13C2 PFDoA	77		25 - 150	05/07/21 11:52	05/08/21 22:56	1
13C2 PFTeDA	73		25 - 150	05/07/21 11:52	05/08/21 22:56	1
13C2 PFHxDA	75		25 - 150	05/07/21 11:52	05/08/21 22:56	1
13C3 PFBS	77		25 - 150	05/07/21 11:52	05/08/21 22:56	1
18O2 PFHxS	85		25 - 150	05/07/21 11:52	05/08/21 22:56	1
13C4 PFOS	80		25 - 150	05/07/21 11:52	05/08/21 22:56	1
13C8 FOSA	82		10 - 150	05/07/21 11:52	05/08/21 22:56	1
d3-NMeFOSAA	86		25 - 150	05/07/21 11:52	05/08/21 22:56	1
d5-NEtFOSAA	86		25 - 150	05/07/21 11:52	05/08/21 22:56	1
d-N-MeFOSA-M	64		10 - 150	05/07/21 11:52	05/08/21 22:56	1
d-N-EtFOSA-M	64		10 - 150	05/07/21 11:52	05/08/21 22:56	1
d7-N-MeFOSE-M	72		10 - 150	05/07/21 11:52	05/08/21 22:56	1
d9-N-EtFOSE-M	71		10 - 150	05/07/21 11:52	05/08/21 22:56	1
M2-4:2 FTS	88		25 - 150	05/07/21 11:52	05/08/21 22:56	1
M2-6:2 FTS	91		25 - 150	05/07/21 11:52	05/08/21 22:56	1
M2-8:2 FTS	90		25 - 150	05/07/21 11:52	05/08/21 22:56	1
13C3 HFPO-DA	70		25 - 150	05/07/21 11:52	05/08/21 22:56	1
13C2 10:2 FTS	97		25 - 150	05/07/21 11:52	05/08/21 22:56	1

Lab Sample ID: LCS 320-487032/2-A
Matrix: Water
Analysis Batch: 487343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487032

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	39.1		ng/L		98	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	42.0		ng/L		105	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	41.0		ng/L		103	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	44.8		ng/L		112	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	41.5		ng/L		104	60 - 135
Perfluorononanoic acid (PFNA)	40.0	39.8		ng/L		99	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	38.3		ng/L		96	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	35.8		ng/L		90	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	42.3		ng/L		106	60 - 135
Perfluorotridecanoic acid (PFTTrDA)	40.0	44.4		ng/L		111	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	43.0		ng/L		107	60 - 135
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	41.6		ng/L		104	60 - 135
Perfluoro-n-octadecanoic acid (PFODA)	40.0	43.0		ng/L		107	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.4	35.2		ng/L		99	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	37.5	42.0		ng/L		112	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.5		ng/L		92	60 - 135

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: City of Eau Claire WWTP
 Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-487032/2-A
Matrix: Water
Analysis Batch: 487343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487032

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	37.9		ng/L		100	60 - 135
Perfluorooctanesulfonic acid (PFOS)	37.1	35.5		ng/L		96	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.4	35.3		ng/L		92	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	35.6		ng/L		92	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.7	40.2		ng/L		104	60 - 135
Perfluorooctanesulfonamide (FOSA)	40.0	40.5		ng/L		101	60 - 135
NEtFOSA	40.0	40.6		ng/L		102	60 - 135
NMeFOSA	40.0	41.0		ng/L		102	60 - 135
NMeFOSAA	40.0	38.3		ng/L		96	60 - 135
NEtFOSAA	40.0	39.4		ng/L		98	60 - 135
NMeFOSE	40.0	36.4		ng/L		91	60 - 135
NEtFOSE	40.0	37.8		ng/L		94	60 - 135
4:2 FTS	37.4	35.9		ng/L		96	60 - 135
6:2 FTS	37.9	39.5		ng/L		104	60 - 135
8:2 FTS	38.3	38.5		ng/L		101	60 - 135
10:2 FTS	38.6	38.6		ng/L		100	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	35.4		ng/L		94	60 - 135
HFPO-DA (GenX)	40.0	43.6		ng/L		109	60 - 135
9Cl-PF3ONS	37.3	34.4		ng/L		92	60 - 135
11Cl-PF3OUdS	37.7	35.5		ng/L		94	60 - 135

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	70		25 - 150
13C5 PFPeA	70		25 - 150
13C2 PFHxA	74		25 - 150
13C4 PFHpA	73		25 - 150
13C4 PFOA	75		25 - 150
13C5 PFNA	79		25 - 150
13C2 PFDA	76		25 - 150
13C2 PFUnA	84		25 - 150
13C2 PFDoA	75		25 - 150
13C2 PFTeDA	71		25 - 150
13C2 PFHxDA	79		25 - 150
13C3 PFBS	74		25 - 150
18O2 PFHxS	79		25 - 150
13C4 PFOS	82		25 - 150
13C8 FOSA	78		10 - 150
d3-NMeFOSAA	90		25 - 150
d5-NEtFOSAA	79		25 - 150
d-N-MeFOSA-M	63		10 - 150
d-N-EtFOSA-M	59		10 - 150
d7-N-MeFOSE-M	80		10 - 150
d9-N-EtFOSE-M	69		10 - 150

QC Sample Results

Client: City of Eau Claire WWTP
Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-487032/2-A
Matrix: Water
Analysis Batch: 487343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487032

<i>Isotope Dilution</i>	<i>LCS LCS</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>M2-4:2 FTS</i>	93		25 - 150
<i>M2-6:2 FTS</i>	85		25 - 150
<i>M2-8:2 FTS</i>	87		25 - 150
<i>13C3 HFPO-DA</i>	66		25 - 150
<i>13C2 10:2 FTS</i>	87		25 - 150

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QC Association Summary

Client: City of Eau Claire WWTP
Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

LCMS

Prep Batch: 487032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-73171-1	EP-400 PFAS	Total/NA	Water	3535	
MB 320-487032/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-487032/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 487343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-73171-1	EP-400 PFAS	Total/NA	Water	537 (modified)	487032
MB 320-487032/1-A	Method Blank	Total/NA	Water	537 (modified)	487032
LCS 320-487032/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	487032

Lab Chronicle

Client: City of Eau Claire WWTP
Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Client Sample ID: EP-400 PFAS

Lab Sample ID: 320-73171-1

Date Collected: 04/26/21 14:15

Matrix: Water

Date Received: 05/03/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			290.3 mL	10.0 mL	487032	05/07/21 11:52	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1			487343	05/09/21 01:31	RS1	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Accreditation/Certification Summary

Client: City of Eau Claire WWTP
Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

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Method Summary

Client: City of Eau Claire WWTP
Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



Sample Summary

Client: City of Eau Claire WWTP
Project/Site: PFAS Testing - Water Plant

Job ID: 320-73171-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-73171-1	EP-400 PFAS	Water	04/26/21 14:15	05/03/21 09:40	

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Client Information		Sampler: <u>Tyler Fadness</u>		Lab PM: <u>Fredrick, Sandie</u>		Carrier Tracking No(s): <u>320-35702-8820.1</u>							
Client Contact: <u>Ty Fadness</u>		Phone: <u>715-839-6121</u>		E-Mail: <u>sandira.fredrick@eurofinset.com</u>		Page: <u>Page 1 of 1</u>							
Company: <u>City of Eau Claire WWTP</u>		PWSID: _____		Analysis Requested <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:15%;">Field Filtered Sample (Yes or No)</td><td style="width:15%; text-align:center;"><input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td></tr> <tr><td>PFAS IDA - PFAS, Extended List (36 Analytes)</td><td style="text-align:center;"><input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td></tr> <tr><td>PFAS M/MSD (Yes or No)</td><td style="text-align:center;"><input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td></tr> </table>				Field Filtered Sample (Yes or No)	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PFAS IDA - PFAS, Extended List (36 Analytes)	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PFAS M/MSD (Yes or No)	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Field Filtered Sample (Yes or No)	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
PFAS IDA - PFAS, Extended List (36 Analytes)	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
PFAS M/MSD (Yes or No)	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Due Date Requested: <u>ASAP</u>		TAT Requested (days): _____											
Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Pay by Credit Card											
PO #: _____		WO #: _____											
Project #: <u>32012617</u>		Project Name: <u>PFAS Testing</u>											
Site: <u>Water Plant</u>		SSOW#: _____											
Sample Identification		Sample Date						Sample Time		Sample Type (C=comp, G=grab)			
<u>EP-100 PFAS</u>		<u>4/26/21</u>		<u>1415</u>		<u>G</u>							
						Matrix (W=water, S=solid, O=wastewater)							
						Preservation Code: <u>Water</u>							
						Special Instructions/Note: _____							
						Total Number of Containers: _____							
						Preservation Codes: A - HCl M - Hexane B - NaOH N - None C - Zn Acetate O - ASN802 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Anchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA X - other (specify) Other: _____							
Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant							
Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological							
Empty Kit Relinquished by: _____		Date: _____		Time: _____		Method of Shipment: <u>TRC</u>							
Relinquished by: <u>Tyler Fadness</u>		Date/Time: <u>4/26/21 1415</u>		Company: <u>City of Eau Claire</u>		Received by: _____							
Relinquished by: _____		Date/Time: _____		Company: _____		Date/Time: <u>5/3/21 940</u>							
Relinquished by: _____		Date/Time: _____		Company: _____		Date/Time: _____							
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.: <u>1503786</u>		Custody Seal No.: <u>1503787</u>		Cooler Temperature(s) °C and Other Remarks: _____							
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		<input type="checkbox"/> Return To Client		<input checked="" type="checkbox"/> Disposal By Lab		Archive For _____ Months							
Special Instructions/QC Requirements:		320-73171 Chain of Custody											



Login Sample Receipt Checklist

Client: City of Eau Claire WWTP

Job Number: 320-73171-1

Login Number: 73171

List Source: Eurofins TestAmerica, Sacramento

List Number: 1

Creator: Guzman, Juan

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1503786
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Refer to Job Narrative for details.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	